

REMARKS

At pages 2-5 of the Office Action, the Examiner has required that the present application be restricted, under 35 U.S.C. §§ 121 and 372, to one of the following five (5) groups of claims:

- Group I: Claims 1-7, drawn to vectors containing at least following five DNA sequences: (1) a DNA sequence encoding one protein or its fragment; (2) a DNA sequence encoding a protein for displaying said one protein or its fragment on a phage; (3) a DNA sequence encoding another protein or its fragment; (4) a stop codon that enable display switch by a host strain; and (5) a DNA sequence encoding a protein for displaying said another protein or its fragment on the phage, the vector having a structure comprising these 5 DNA sequences in the order of (1), (2), (3), (4) and (5) or (3), (4), (5), (1) and (2) in the 5'-3' direction of the vector, by the presence of the stop codon that enables display switch by said host strain, when the vector is introduced into a suppressor-mutant host strain, the vector provides a two-protein displaying phage on which both of said one protein or its fragment and said another protein or its fragment are displayed, and when the vector is introduced into a non-suppressing host strain, the vector provides a one-protein displaying phage on which only said one protein or its fragment is displayed and said another protein or its fragment is secreted into the culture medium.
- Group II: Claims 8-18, drawn to methods for determining interaction between one protein or its fragment and another protein or its fragment, comprising (1) transforming a non-suppressing host strain by using the vector according claim 1, thereby obtaining one-protein displaying phage on which only said one protein or its fragment is displayed, and a culture medium containing said another protein or its fragment being secreted from said non-suppressing host strain; (2) immobilizing said another protein or its fragment in the supernatant on an appropriate support; (3) reacting said another protein or its fragment immobilized on the support with said one protein or its fragment displayed on the one-protein displaying phage, thereby said one protein or its immobilized phages by an immunoassay using a labeled anti-phage antibody, thereby evaluating the binding ability between said one protein or its fragment and said another protein or its fragment.
- Group III: Claim 19, drawn to a method for obtaining a VL fragment of the variable region of an antibody, comprising (1) transforming a non-suppressing host strain by using the vector as described in claim 2, or transfecting a non-suppressing host strain with a VH/VL displaying phage containing said vector; (2) allowing the transformed non-

suppressing host strain to secrete the VL fragment into the culture medium; and (3) purifying the VL fragment from the culture medium.

Group IV: Claim 20, drawn to a method for obtaining a VH fragment of the variable region of an antibody, the method comprising the steps of: (1) transforming a non-suppressing host strain by using a vector as described in claim 3, or transfecting a non-suppressing host strain with a VH/VL displaying phage containing said vector; (2) allowing the transformed non-suppressing host strain to secrete the VH fragment into the culture medium; and (3) purifying the VH fragment from the culture medium.

In response, Applicants hereby elect the invention defined by the Examiner as Group I, Claims 1-7, drawn to vectors containing at least following five DNA sequences: (1) a DNA sequence encoding one protein or its fragment; (2) a DNA sequence encoding a protein for displaying said one protein or its fragment on a phage; (3) a DNA sequence encoding another protein or its fragment; (4) a stop codon that enable display switch by a host strain; and (5) a DNA sequence encoding a protein for displaying said another protein or its fragment on the phage, the vector having a structure comprising these 5 DNA sequences in the order of (1), (2), (3), (4) and (5) or (3), (4), (5), (1) and (2) in the 5'-3' direction of the vector, by the presence of the stop codon that enables display switch by said host strain, when the vector is introduced into a suppressor-mutant host strain, the vector provides a two-protein displaying phage on which both of said one protein or its fragment and said another protein or its fragment are displayed, and when the vector is introduced into a non-suppressing host strain, the vector provides a one-protein displaying phage on which only said one protein or its fragment is displayed and said another protein or its fragment is secreted into the culture medium.

. The response to the Restriction Requirement has been made without prejudice or disclaimer to any of the non-elected subject matter. Applicants expressly reserve the right to file one or more continuation and/or divisional applications directed to any of the non-elected subject matter.

CONCLUSION

In view of the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order. Such action is earnestly solicited.


In the event that there are any questions related to this response, or the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney at the below-listed telephone number concerning such questions so that prosecution of this application may be expedited.

Respectfully submitted,

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